Pending Claims

1-49. Canceled.

50. (Previously Presented) A CT scanner for scanning of an object, the scanner comprising:

a tunnel;

a conveyor for moving the object through the tunnel;

a gantry rotatable around the tunnel;

an x-ray source connected to the gantry and configured to provide an x-ray beam substantially perpendicular to the tunnel;

a first plurality of detectors connected to the gantry and positioned a first distance from, and opposite, the x-ray source;

a second plurality of detectors ~~on~~ connected to the gantry and positioned a second distance from the x-ray source, wherein the second distance is less than the first distance; and

a third plurality of detectors connected to the gantry and positioned substantially the second distance from the x-ray source;

wherein the x-ray beam intersects substantially an entire cross-section of the tunnel substantially transverse to a length of the tunnel; and

wherein the first, second, and third pluralities of detectors combined are configured and disposed to receive substantially all of the x-ray beam passing through the tunnel in the cross-section.

51. (Previously Presented) The CT scanner of claim 50, wherein a first edge of the first plurality of detectors is positioned within the x-ray beam adjacent to a first edge of the second plurality detectors and a second edge of the first plurality of detectors is positioned within the x-ray beam adjacent to a first edge of the third plurality of detectors.

52-53. Canceled.

54. (Currently Amended) ~~The CT scanner of claim 50,~~ A CT scanner for scanning of an object, the scanner comprising:

a tunnel;

a conveyor for moving the object through the tunnel;

a gantry rotatable around the tunnel;

an x-ray source connected to the gantry and configured to provide an x-ray beam substantially perpendicular to the tunnel;

a first plurality of detectors connected to the gantry and positioned a first distance from, and opposite, the x-ray source;

a second plurality of detectors ~~on~~ connected to the gantry and positioned a second distance from the x-ray source, wherein the second distance is less than the first distance; and

a third plurality of detectors connected to the gantry and positioned substantially the second distance from the x-ray source;

wherein the x-ray beam intersects substantially an entire cross-section of the tunnel substantially transverse to a length of the tunnel;

wherein the first, second, and third pluralities of detectors combined are configured and disposed to receive substantially all of the x-ray beam passing through the tunnel in the cross-section; and

wherein a distance between adjacent detectors in the first plurality of detectors is different than a distance between adjacent detectors in the second plurality of detectors.

55-57. Canceled.

58. (Previously Presented) The CT scanner of claim 50, further comprising at least one computer for receiving data from the detectors and reconstructing ~~at~~ an image of at least a portion of the object.

59-60. Canceled.

61. (Previously Presented) A CT scanner for scanning of an object comprising:

a tunnel;

a conveyor for moving the object through the tunnel;

a gantry rotatable around the tunnel and having first and second halves transverse to a length of the tunnel;

an x-ray source connected to the gantry and configured to provide an x-ray beam substantially perpendicular to the tunnel, wherein the x-ray beam includes at least two energy levels;

a first plurality of detectors responsive to a first one of the at least two energy levels positioned on the gantry to intersect a first portion of the x-ray beam; and

a second plurality of detectors responsive to a second one of the at least two energy levels positioned on the gantry to intersect a second portion of the x-ray beam separate from the first portion;

wherein the first plurality of detectors is disposed on the first half of the gantry and the second plurality of detectors is disposed on the second half of the gantry;

wherein the first plurality of detectors comprises a first portion disposed a first distance from the x-ray source and a second portion disposed a second distance from the x-ray source, and the second plurality of detectors comprises a first portion disposed substantially the first distance from the x-ray source and a second portion disposed substantially the second distance from the x-ray source;

wherein the x-ray beam intersects substantially an entire cross-section of the tunnel substantially transverse to a length of the tunnel; and

wherein the first and second pluralities of detectors combined are configured and disposed to receive substantially all of the x-ray beam passing through the tunnel in the cross-section.

62. (Previously Presented) The CT scanner of claim 61, wherein an outer edge of the second portion of the first plurality of detectors is disposed adjacent an outer edge of the gantry, an outer edge of the second portion of the second plurality of detectors is

disposed adjacent the outer edge of the gantry, and an inner edge of the first portion of the first plurality of detectors is disposed adjacent an inner edge of the first portion of the second plurality of detectors.

63-75. Canceled.

76. (Previously Presented) A baggage check-in system comprising:

a first check-in station for passengers to check-in for a flight and to check baggage;

a second check-in station for passengers to check-in for a flight and to check baggage; and

a CT scanner positioned between the first check-in station and the second check-in station, the CT scanner comprising:

a tunnel;

a conveyor for moving the object through the tunnel;

a gantry rotatable about a length of the tunnel;

an x-ray source connected to the gantry and configured to provide an x-ray beam substantially perpendicular to the tunnel;

a first plurality of detectors connected to the gantry and positioned a first distance from, and opposite, the x-ray source;

a second plurality of detectors connected to the gantry and positioned a second distance from the x-ray source, wherein the second distance is less than the first distance; and

a third plurality of detectors connected to the gantry and positioned substantially the second distance from the x-ray source;

wherein the x-ray beam intersects substantially an entire cross-section of the tunnel substantially transverse to the length of the tunnel; and

wherein the first, second, and third pluralities of detectors combined are configured and disposed to receive substantially all of the x-ray beam passing through the tunnel in the cross-section.

77. (Previously Presented) The baggage check-in system of claim 76 wherein a first edge of the first plurality of detectors is positioned within the x-ray beam adjacent to a first edge of the second plurality detectors and a second edge of the first plurality of detectors is positioned within the x-ray beam adjacent to a first edge of the third plurality of detectors.

78. (Currently Amended) ~~The baggage check-in system of claim 76~~ A baggage check-in system comprising:

a first check-in station for passengers to check-in for a flight and to check baggage;

a second check-in station for passengers to check-in for a flight and to check baggage; and

a CT scanner positioned between the first check-in station and the second check-in station, the CT scanner comprising:

a tunnel;

a conveyor for moving the object through the tunnel;

a gantry rotatable about a length of the tunnel;

an x-ray source connected to the gantry and configured to provide an x-ray beam substantially perpendicular to the tunnel;

a first plurality of detectors connected to the gantry and positioned a first distance from, and opposite, the x-ray source;

a second plurality of detectors connected to the gantry and positioned a second distance from the x-ray source, wherein the second distance is less than the first distance; and

a third plurality of detectors connected to the gantry and positioned substantially the second distance from the x-ray source;

wherein the x-ray beam intersects substantially an entire cross-section of the tunnel substantially transverse to the length of the tunnel;

wherein the first, second, and third pluralities of detectors combined are configured and disposed to receive substantially all of the x-ray beam passing through the tunnel in the cross-section; and wherein a distance between adjacent detectors in the first plurality of detectors is different than a distance between adjacent detectors in the second plurality of detectors.

79. (Currently Amended) ~~The baggage check-in system of claim 76 further comprising~~ A baggage check-in system comprising:

a first check-in station for passengers to check-in for a flight and to check baggage;

a second check-in station for passengers to check-in for a flight and to check baggage; and

a CT scanner positioned between the first check-in station and the second check-in station, the CT scanner comprising:

a tunnel;

a conveyor for moving the object through the tunnel;

a gantry rotatable about a length of the tunnel;

an x-ray source connected to the gantry and configured to provide an x-ray beam substantially perpendicular to the tunnel;

a first plurality of detectors connected to the gantry and positioned a first distance from, and opposite, the x-ray source;

a second plurality of detectors connected to the gantry and positioned a second distance from the x-ray source, wherein the second distance is less than the first distance;

a third plurality of detectors connected to the gantry and positioned substantially the second distance from the x-ray source; and

a fourth plurality of detectors on the gantry positioned a third distance from the x-ray source;

wherein the x-ray beam intersects substantially an entire cross-section of the tunnel substantially transverse to the length of the tunnel; and

wherein the first, second, and third pluralities of detectors combined are configured and disposed to receive substantially all of the x-ray beam passing through the tunnel in the cross-section.

80. (Previously Presented) The baggage check-in system of claim 76 further comprising at least one computer for receiving data from the detectors and reconstructing an image of at least a portion of the object.

81. (Previously Presented) A CT scanner for scanning of an object comprising:

a tunnel;

a conveyor for moving the object through the tunnel;

a gantry rotatable relative to a length of the tunnel;

an x-ray source connected to the gantry for providing an x-ray beam substantially perpendicular to the tunnel;

a first plurality of detectors connected to the gantry positioned a first distance from the x-ray source; and

a second plurality of detectors connected to the gantry positioned a second distance from the x-ray source, wherein the second distance is less than the first distance,

wherein an angle between portions of the beam from the x-ray source to adjacent detectors in the first plurality of detectors is the same as an angle between portions of the beam from the x-ray source to adjacent detectors in the second plurality of detectors;

wherein the x-ray beam intersects a portion of a cross-section of the tunnel, substantially perpendicular to the length of the tunnel, that is less than an entirety of the cross-section; and

wherein the first and second pluralities of detectors are configured and disposed to intercept substantially the entire x-ray beam passing through the tunnel.

82. (Previously Presented) The CT scanner of claim 81, wherein the x-ray beam intersects about one-half of the cross-section of the tunnel.